3K 40 inspect for Dan Spinner 3/14/85

RCRA
TSD
PAS-1
NAO-1

IL-0407-10

3-14-85

R S-850506

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: IL
02 SITE NUMBER: ILD980503221

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Amoco Oil (Riverfront) Levee gate rt. 3	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Rt. 3
03 CITY: Wood River	04 STATE: IL; 05 ZIP CODE: 60295; 06 COUNTY: Madison; 07 COUNTY CODE: 119; 08 CONG DIST: 23
09 COORDINATES LATITUDE: 38 50 05.1; LONGITUDE: 090 06 09.0	IL quad map 221 d

10 DIRECTIONS TO SITE (Starting from nearest public road): between rt. 3 and Mississippi river

III. RESPONSIBLE PARTIES

01 OWNER (If known): Amoco Oil Corp	02 STREET (Business, mailing, residential): 200 E. Randolph
03 CITY: Chicago	04 STATE: IL; 05 ZIP CODE: 60601; 06 TELEPHONE NUMBER: (312) 856-5111
07 OPERATOR (If known and different from owner):	08 STREET (Business, mailing, residential):
09 CITY:	10 STATE: ; 11 ZIP CODE: ; 12 TELEPHONE NUMBER: (618) 251-2200

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: ____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: ____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 11/18/80 (MONTH DAY YEAR) ☒ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: 6/8/81 (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 9/21/79 (MONTH DAY YEAR) 8/6/84
☐ NO

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: ____ (Specify)
CONTRACTOR NAME(S): ____

02 SITE STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION: 1908 (BEGINNING YEAR) 1980 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
sludges (toxic/persistant) other organic chem (toxic/persistant)
oily waste (soluble/flammable)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Surface water (population/environment)
groundwater (population/environment)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☒ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Ed J. Sullivan	02 OF (Agency/Organization): Amoco			03 TELEPHONE NUMBER: (312) 856-5858
04 PERSON RESPONSIBLE FOR ASSESSMENT: Sue Murphy	05 AGENCY: IEPA	06 ORGANIZATION: HSCS	07 TELEPHONE NUMBER: (217) 782-6760	08 DATE: 2/22/85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	IL0980503221

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- A SOLID
- B POWDER, FINES
- C SLUDGE
- D OTHER (Specify)
- E SLURRY
- F LIQUID
- G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS
- CUBIC YARDS 297,000
- NO OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- A TOXIC
- B CORROSIVE
- C RADIOACTIVE
- D PERSISTENT
- E SOLUBLE
- F INFECTIOUS
- G FLAMMABLE
- H IGNITABLE
- I HIGHLY VOLATILE
- J EXPLOSIVE
- K REACTIVE
- L INCOMPATIBLE
- M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	297000	yds	DAF float
OLW	OILY WASTE	UNK	UNK	refinery waste of 70 yrs
SCL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	UNK	UNK	UNK
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES	UNK	UNK	Sodium polysulfate - fly ash
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	Asbestos	1332214	buried	UNK	UNK

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

division files - Air, water, land, pws

phone call to AMOCO - Ed Sullivan

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	IL0980503221

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ✓ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 77,200
02 ☐ OBSERVED (DATE _____) ~~POTENTIAL~~ ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Test borings of ponds show silt bottoms which would allow contamination to reach ground water. Ground water tests show H.C.

01 ✓ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: UNK
02 ✓ OBSERVED (DATE: 6/14/83) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Inspection observed evidence of flooding and overflow of lagoons. No surface water intakes, but groundwater recharged from river.

01 ✓ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 80,000
02 ☐ OBSERVED (DATE _____) ~~POTENTIAL~~ ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Large quantities of petroleum wastes stored in open.

01 ✓ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: 49,300
02 ☐ OBSERVED (DATE _____) ~~POTENTIAL~~ ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Large quantities of petroleum wastes stored.

01 ✓ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 29,700
02 ☐ OBSERVED (DATE _____) ~~POTENTIAL~~ ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Large quantities of petroleum wastes stored.

01 ✓ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 168 (Acres)
02 ☐ OBSERVED (DATE _____) ~~POTENTIAL~~ ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Refinery wastes of 70 years production buried and stored in lagoons.

01 ✓ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 77,200
02 ☐ OBSERVED (DATE _____) ~~POTENTIAL~~ ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Test wells show high H.C. Levels.

01 ✓ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: 12
02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Does not include barge loading work done at this location. They are included with workers at main plant.

01 ✓ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 80,000
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	IL0980503221

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills runoff standing liquids leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 80,000

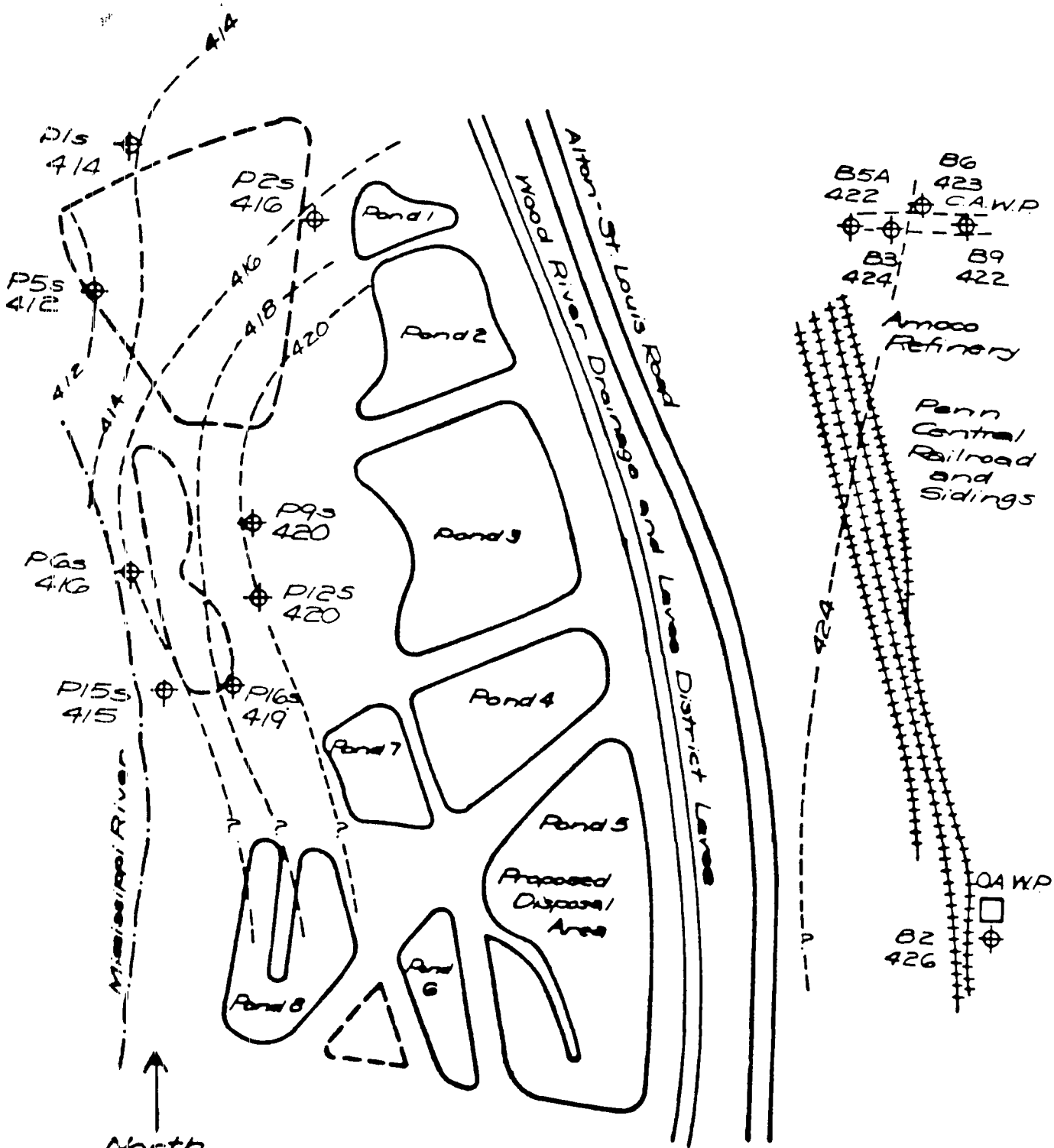
IV. COMMENTS

Investigation should include main plant (ILD 980700967) and LWTP (IL0006272692) which are contiguous.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Agency files - Air - water - land - PWS
Phone call - Amoco - Ed Sullivan

EPA FORM 2070-12 (7-81)



LEGEND

P Well data from October 1980 Report

P5s Well number

Well location

412 Water surface elevation

SHALLOW WATER LEVELS
IN ALLUVIAL AQUIFER

CC, 83C054-2, May 1983

Fig. 1

EXECUTIVE SUMMARY

Amoco Oil Co. (Levee Gate Rt. 3), ILD980503221, is known as the Amoco Riverfront site. It is bordered on the east by the Con Rail tracks and Rt. 3 (which separate it from Amoco Main Plant, ILD980700967) and on the west by the Mississippi River. The facility is used for barge loading of oil in connection with the tank farm located north of this site (as part of Amoco Oil Co. Main Office-WWTP, ILD006272629).

A special waste disposal site was discovered at this location through aerial photographs. An inspection by IEPA on September 21, 1979 revealed waste material present in several areas at this site. They were:

1. four surface impoundments (ponds 1-4) containing DAF float from the refinery;

2. an active landfill of approximately 26 acres containing buried drums, catalytic cracker fines, water softening agent, filter clay used for jet fuel, waste oil, polybutenes and refinery sludge;

3. four surface impoundments (ponds 5-8) called the waste water surge area and approximately 102 acres in size (used for waste water treatment prior to 1976); and

4. a past disposal area of approximately 25 acres and adjacent to the Mississippi River. Liquid, semi-liquid and semi-solid refinery wastes were disposed of here for more than 60 years before the effective date of the regulations.

IEPA notified Amoco that permits were required for special waste disposal sites and Amoco applied for a permit which was denied because the area is in the flood plain of the Mississippi River. Amoco continued to operate the active site until threatened with enforcement action in 1980.

An IEPA inspection June 14, 1983 revealed clear evidence of flooding. The chain link fence surmounting the berm around the lagoons had drift wood caught in it and the berms had an oil deposit showing where the oily water had risen to the top.

In 1981 Amoco installed a clay slurry wall between the past disposal area and the Mississippi River without Agency permits. This action and placement of a partial cap were considered to be significant management activities and subjected the landfill to RCRA requirements. The actions have subsequently been approved by IEPA along with a program for cap maintenance and leachate detection.

In 1981 a proposal was made to de-list DAF float as a hazardous waste and IEPA agreed not to take enforcement action against Amoco for storage of DAF sludge. The temporary de-listing was suspended March, 1984, and the company began to study a chem-fix process with the intention of treating the sludge in ponds 1-4 and transferring the neutralized product to pond 5 which is immediately adjacent to the past disposal area.

The chem-fix process utilizes soluble silicates as reactants which combine with toxic metal constituents in the waste to produce insoluble metal silicates. A cement type material is added and the resultant product is advertised to be a stable soil like substance. A closure plan featuring this process is presently under analysis by IEPA to see if it is consistent with RCRA. It estimates that 55-60,000,000 gallons of sludge are stored in ponds 1-4.

IEPA worked with Amoco for about two years before a December 14, 1984 revision of the Subpart F application was approved. Amoco's NPDES permit expired in 1980. They are operating under the conditions of the expired permit while the renewal application is being processed. The transfer of ownership of their waste water treatment plant to the City of Wood River and the closing of the refinery will necessitate some change.

A groundwater monitoring program was started December, 1982, and 13 new test wells were drilled around the lagoons. Problems have delayed test results, but boring logs note the presence of hydrocarbons throughout.

The cities of Wood River and East Alton obtain their water from drift wells. A September 8, 1983 evaluation by the State Geological Survey concludes that the probability of groundwater contamination is very high. A hydrogeologic study included with the January 31, 1985 closure plan for the Riverfront site states that the aquifer underlying the flood plain is so heavily developed that the pumping of water supply wells within the alluvial/glacial outwash has reversed the groundwater gradient from flowing toward the Mississippi River to flowing from the Mississippi River. This condition makes the Mississippi River a groundwater recharge source at this site. Even though there are no surface water intakes in this area, the pumping has the effect of a surface water intake. Surface water contamination has probably been taking place from the Riverfront site for many years, and groundwater contamination is likely from lagoons and refinery operations; therefore, contamination of local wells is a definite possibility that should be investigated.

A high priority for inspection is recommended for this site. It is unknown at this time whether IEPA will approve the closure plan as meeting RCRA standards, and since final de-listing of DAF float is pending, Amoco may not be compelled to take action under RCRA. The Main Plant and waste water treatment plant sites should be investigated at the same time as this site.

SM:tk/5-6